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Science and Technology for Tomorrow's Aerospace Forces

Success Story

QUANTIFYING HUMAN PERFORMANCE ACHIEVES NEW ACCURACIES



Newly created Synthetic Task Environments (STEs) can more accurately measure a person's performance in the workplace. Now for the first time, scientists can use STEs to compare results of varied influences on Air Force individual and team performance.



Air Force Research Laboratory
Wright-Patterson AFB OH

Office of Scientific Research
Emerging Technologies

Accomplishment

The Air Force Office of Scientific Research's Chemistry and Life Sciences Directorate and the Human Effectiveness Directorate funded the research for this landmark measuring tool. The Warfighter Training Research Division in Mesa, Arizona and the Information Systems Training Branch at Brooks AFB, Texas, accomplished the research from 1996 to the present.

Background

The STE approach observes the effectiveness of Air Force personnel on the job and encompasses a complex array of tasks. The STE gives researchers a flexible tool to gather useful data in areas previously thought difficult and to measure computer-aided instruction, human-computer interfaces, team member interactions, and training interventions.

As a result of the findings, directorate researchers established a real-time collaborative team research program on the Internet for government, university, and small business participation to expand these results into information fusion, distributed decision making, and human representation modeling. Researchers tested the STEs by analyzing the tasks involved in operating unmanned air vehicles and observing Air Force experts perform command and control functions in airborne warning and control aircraft.

Based on the findings, the researchers formulated computer-based simulations of operational scenarios and established a benchmark for human performance called Human Performance Units (HPUs). HPUs enable experts to make scientific recommendations on how to improve a worker's performance and on the impact of new technology in the workplace.

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTT, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (01-OSR-05)